REMARKS:

Applicants respectfully request reconsideration and withdrawal of the outstanding Office Action rejections based on the foregoing amendments and following remarks. Claim 1 has been amended and new claims 24-40 have been added. No new matter has been added.

Response to Rejections under § 103

Claims 1, 3, 12-15, and 22-23 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Muller (U.S. Patent 4,287,304) in view of Dahlstrom (U.S. 4,309,254). The Examiner acknowledges that Muller does not disclose the drying dew point temperature above 95 degrees and preferably between 100 and 105 degrees Celsius, but asserts that it would have been obvious to determine the optimal temperature range. Further, the Examiner asserts that, based on the disclosure in col. 5, lines 7-8 of Dahlstrom, it would have been obvious to one of ordinary skill to modify the alcohol producing apparatus of Muller to include the exhaust vapor of the drier for heating the distillation column because it allows for a 25% savings in steam consumption due to the recycling of the exhaust vapor (col. 2, lines 49-53). The Examiner asserts that the argument that Dahlstrom does not disclose using seed coats as a carrier medium is not convincing because Muller discloses these features.

Applicants respectfully disagree with the assertions that Muller discloses using the seed coats as the carrier medium and that the cited art suggests the advantages of using the presently claimed invention. Applicants submit that because neither Muller nor Dahlstrom discloses an apparatus wherein the dry seed coats are fed directly to the

drying station to serve as the **carrier medium** for the vinasse, the combination of these references does not render the present claims obvious. Further, neither reference teaches the advantages realized by the present invention. Claim 1 has been amended to incorporate a structural limitation that further distinguishes the claimed apparatus from the cited references. Claim 1 has been amended to recite the distinguishing structural components 'a grinding station (1) comprising a separator and a feeder, wherein said grinding station grinds grain comprising a starch and/or sugar of the cereal raw materials to flour, said separator separates at least a part of seed coat portions enclosing said grain, and said feeder feeds said separated seed coat portions directly to a drying station' as supported by the disclosure on page 12, lines 1-10. This configuration serves two purposes: 1) the fermented mash is richer in fermentable carbohydrates and sugar improving the percentage of alcohol produced; 2) the percentage of dry vinasse (which is recirculated in prior art methods) is reduced or eliminated. The claimed method thereby provides both alcohol and dried vinasse with less energy expenditure than could be obtained from prior methods.

Applicants submit that Muller does not disclose a feeder that feeds dry seed coats directly to the drying station because Muller discloses first mixing the hulls with liquid wastes of the alcohol production (col. 5, lines 33-37) and optionally subjecting the mixture to a drying operation (col. 6, lines 35-38). Dahlstrom does not cure this deficiency of Muller because it also does not disclose or suggest the above features. Dahlstrom discloses the idea to separate fiber contained in fermented mash which is produced in fermenter 12 before a liquid containing solubles is fed to the distillation column 22. The **wet** solid portion of the mash and also the **wet** still bottoms of the

evaporator 30 are fed to drier 51, the vapor stream of which is used to partially heat the distillation column 22. Dahlstrom does not disclose the idea to feeding dry seed coat portions directly to the drier to serve as the carrier medium for vinasse drying. Thus, Applicants submit that claim 1, as amended, is distinguished from the combination of Dahlstrom and Muller for at least the above reasons.

In addition to the above distinctions, claim 1 has also been amended to further indicate the differences between the presently claimed apparatus and those taught in the prior art. The Examiner indicated that Dahlstrom discloses that the vapor of the drier heats the distillation column. Applicants previously submitted that it is clear that the drier of Dahlstrom does not provide nearly enough vapor to heat the distillation column 22 to permit distillation because the actual heating is provided by evaporators 29 which recompress the vapors in compressors 38 to raise the energy level of the heating vapor. The Examiner stated that the above limitation was not recited in the claims. Applicants have amended claim 1 to expressly limit the appartus to require "a drying station configured to dry vinasse produced as a residue in said distillation station at a dew point temperature of above 95°C, comprising a drier producing exhaust vapor having a temperature permitting the distillation of said alcohol in said distillation station." Support for this amendment is found on page 11, lines 36-38 of the specification. No combination of Muller and Dahlstrom teaches or suggests an apparatus wherein the drier produces exhaust vapor having a temperature permitting the distillation of alcohol in the distillation station.

Thus, based on the above reasons, Applicants submit that the apparatus of claim 1 is not rendered obvious by any combination of the cited references. Therefore,

Applicants respectfully request that the rejection of claim 1 be withdrawn. Claims 3, 12-15, and 22-23, depend from claim 1 and are unobvious for at least the above reasons.

Claims 2 and 4 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Muller and Dahlstrom in view of Dennis (U.S. Patent 3,443,958). The Examiner asserts that Dennis discloses a grinding station that separates off the seed coats in a specific ratio of seed coats to flour. Claims 2 and 4 depend from claim 1. Applicants submit that Dennis does not remedy the deficiencies of Muller and Dahlstrom with regard to independent claim 1. Therefore, claims 2 and 4 are not rendered obvious by any combination of the cited references for at least the above reasons.

Claims 5-8 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Muller and Dahlstrom, in view of Reich (U.S. Patent 2,343,706). The Examiner asserts that Reich discloses an expansion cooler having a two-stage construction, a mixing condenser having a single-stage construction, and that the mixing condenser heats the product stream to a temperature below the gelatinization temperature of the raw material and the steam-jet injection heats the product stream to a temperature above the gelatinization temperature of the raw material. Applicants submit that Reich does not remedy the deficiencies of Muller and Dahlstrom in rendering the apparatus of claim 1 obvious. Claims 5-8 depend from claim 1. Therefore, claims 5-8 are not rendered obvious by any combination of the cited references for at least the above reasons.

Claims 9-10 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Muller and Dahlstrom, in view of Prentice (U.S. Patent 4,328,317). The Examiner asserts that Prentice discloses a degassing station between fermentation and distillation stations and that the mash is preheated under pressure and heat to allow for degassing. Applicants submit that Prentice does not remedy the deficiencies of Muller and Dahlstrom with regard to independent claim 1. Claims 9-10 depend from claim 1. Therefore, claims 9-10 are not rendered obvious by any combination of the cited references for at least the above reasons.

Claims 16-17 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Muller in view of Dahlstrom, as applied to claims 11-15 above, and further in view of Ginder (U.S. Patent 4,407,662). The Examiner asserts that Ginder discloses using a molecular sieve which is operated at a pressure of 1.7 bar or more. Claims 16-17 depend from claim 1. Applicants submit that Ginder does not remedy the deficiencies of Muller and Dahlstrom with regard to independent claim 1. Therefore, claims 16-17 are not rendered obvious by any combination of the cited references for at least the above reasons.

Claims 18-19 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Muller in view of Dahlstrom, and in view of Stoltenburg (U.S. Patent 3,968,739). The Examiner asserts that Stoltenburg discloses a vinasse processing apparatus for decanting and a pre- and final- evaporator. Claims 18-19 depend from claim 1. Applicants submit that Stoltenburg does not remedy the deficiencies of Muller and

Dahlstrom with regard to independent claim 1. Therefore, claims 16-17 are not rendered obvious by any combination of the cited references for at least the above reasons.

Claims 20-21 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Muller in view of Dahlstrom and in view of Stoltenburg, as applied to claims 18-19 above, and further in view of Ginder. The Examiner asserts that Ginder discloses dehydration of alcohol comprising a molecular sieve. Applicants submit that Ginder does not remedy the deficiencies of Muller, Dahlstrom, and Stoltenburg with regard to independent claim 1. Claims 20-21 depend from claim 1. Therefore, claims 20-21 are not rendered obvious by any combination of the cited references for at least the above reasons.

New Claims

New Claims 24-40 have been added. New claims 24 and 25 further define embodiments of the apparatus of claim 1. Support for claim 24 can be found in Fig. 1 and the first paragraph on page 11 of the specification. Support for claim 25 can be found on page 16, lines 6-8 of the specification. Claims 26-40 aredirected to the method of producing alcohol from cereal raw materials according to the present invention. Support for each of the new claims can be found in claims 1-21 as originally filed and throughout the specification.

Applicants submit that the method recited in claims 26-40 are distinguished from the prior art because the step of feeding dry seed coat portions of cereal directly to a

drying station to serves as the carrier medium for the vinasse. This serves two purposes: 1) the fermented mash is richer in fermentable carbohydrates and sugar improving the percentage of alcohol produced; 2) the percentage of dry vinasse which is recirculated in prior art methods is reduced or eliminated. The claimed method thereby provides both alcohol and dried vinasse with less energy expenditure than could be obtained from prior methods. Accordingly, the presently claimed method uses the seed coat portions removed in the grinding step as carrier medium for vinasse drying. This is one distinction of the presently claimed method from the prior art. Further, the drying step of the presently claimed method requires a dew point above 95°C and produces essentially air-free exhaust vapor which has a temperature permitting the distillation of alcohol in the distillation station and the step of heating the distillation station with the exhaust vapor, exclusively permitting distillation in the distillation column.

In Muller, the still bottoms, i.e. the vinasse from the rectifying column 27, are returned to the hydrolysis stage 12. Muller does not disclose the idea to use **dry** bran as a carrier medium of a drier drying vinasse. And there is no suggestion of using the vapor of the drier to heat the rectifying column 27. Further, there is no disclosure as to how to dimension the drier with respect to the dew point temperature.

In Dahlstrom, the **wet** solid portion of the mash and the **wet** still bottoms of evaporator 30 are fed to drier 51, the vapor stream of which is used to partially heat the distillation column 22. Dahlstrom does not disclose the idea to use dry seed coat portions as a carrier medium for the vinasse drying and does not disclose dew point temperatures of the drier. It is obvious that the drier by far does not provide enough vapor to heat the distillation column 22 since actual heating is done by vapor

provided by evaporators 29 which is recompressed by compressors 38 to raise the energy level of the heating vapor.

Thus, Applicants submit that the pending apparatus and method claims are distinguished from the cited references and respectfully request that the claims be allowed.

Conclusions

In view of the above amendments and remarks hereto, Applicants believe that all of the Examiner's rejections set forth in the September 30, 2009 Office Action have been fully overcome and that the present claims fully satisfy the patent statutes. Applicants, therefore, believe that the application is in condition for allowance.

The Director is authorized to charge any fees or overpayment to Deposit Account No. 02-2135.

The Examiner is invited to telephone the undersigned if it is deemed to expedite allowance of the application.

Respectfully submitted,

By _____

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